REVIEW OF CAPTIVE-REARED MALLARD REGULATIONS ON SHOOTING PRESERVES: SUMMARY

As numbers of wild ducks declined and hunting opportunities became more restricted in the mid-1980s, interest in shooting captive-reared mallards on shooting preserves increased dramatically. In 1985, the U. S. Fish and Wildlife Service (Service) received a series of letters regarding the interpretation of regulations in 50 CFR 21.13 and the practice in Maryland of releasing captive-reared mallards in a free-flying condition on their State-licensed shooting preserves. Prior to this time, shooting preserves released flighted mallards from towers as a general practice to be shot immediately after release and maintained tighter control to prevent these birds from escaping to the wild. The Service responded to the State of Maryland by strictly reiterating the intent of these regulations, mainly "...that such birds may be killed by shooting, in any number, at any time, within the confines of any premises operated as a shooting preserve under State license, permit, or authorization." Since then, the practice of releasing captive-reared mallards on State-licensed shooting preserves has been more broadly interpreted to allow releases of free-flying birds. As a result of this de facto policy, the number of shooting preserves has grown significantly in some areas. However, this practice has become more controversial as large numbers of these birds are being released into areas where they are free to intermingle with wild populations of migratory waterfowl.

At the urging of the four Flyway Councils and the International Association of Fish and Wildlife Agencies (now Association of Fish and Wildlife Agencies, AFWA), the Service was asked to conduct a review of the potential conflicts of releasing free-flying captive-reared mallards on State-licensed shooting preserves and to assess the resulting effects upon migratory waterfowl. With assistance from States and Flyway Councils, all aspects pertaining to enforcement of various regulatory statutes, genetic introgression, disease transmission, and impacts upon waterfowl management programs of wildlife agencies (e.g., population monitoring, banding, and harvest surveys) were examined during 2001-02, including authority and jurisdiction under the Migratory Bird Treaty Act (MBTA).

Based upon this review, the Service's Division of Migratory Bird Management concludes that releasing and shooting of captive-reared mallards on shooting preserves results in greater potential for violations of regulatory statutes, in particular, Federal waterfowl hunting regulations involving live decoys, baiting, over-bagging, and take of wild ducks out of season. The inability to distinguish between captive-reared and wild mallards in flight and the potential for problems caused by these birds intermixing, both on and off shooting preserves, are at the heart of law-enforcement issues regarding releases of free-flying captive-reared mallards on shooting preserves. If a hunter happens to take a wild duck on a shooting preserve, all hunting prohibitions will apply to that "take."

There is also evidence of increased risks of genetic introgression and hybridization, disease transmission, and confounding of established waterfowl-management databases that stem from these activities. The effects upon genetic diversity of, and hybridization with, wild ducks by captive-reared mallards are difficult to quantify at the population level. However, pairing and interbreeding of captive-reared mallards with wild mallards, black ducks, and mottled ducks have been documented. Small, isolated, non-migratory populations, such as mottled ducks in Florida, and perhaps some local breeding populations of black ducks and wild mallards in eastern United States, are most at risk. The genetic differentiation between mallards and black ducks has declined significantly during the past century, most likely due to hybridization. Captive-reared mallards are likely contributing to this breakdown, either directly by interbreeding with black ducks or indirectly through introgression into the wild mallard population that is interbreeding with black ducks. Thus, although the genetic impacts of captive-reared mallard releases on wild stocks are not readily apparent, the long-term effects of hybridization and introgression on the species integrity of mottled ducks, black ducks, and wild mallards should be of primary concern.

The threat of disease transmission is the primary concern among nearly all State wildlife agencies; however, determining the role of captive-reared mallards in the epidemiology of wild waterfowl diseases is inherently difficult. Existing data on the topic are sparse, and as a result, documentation and

illustration of disease transmission events in wild birds resulting directly from the release of captive-reared mallards are difficult. The primary concern however, when considering the importance of disease transmission in captive-reared mallard releases, is the risk associated with the activity. The potential for disease transmission dictates the precautions necessary for proactive and preventative management strategies. Diseases such as duck virus enteritis, avian influenza, and chronic wasting disease illustrate this disease potential and demonstrate the important role that captive-reared and free-ranging populations play in disease ecology.

Large-scale releases of captive-reared mallards in localized areas were found to affect waterfowl-management programs (e.g., population monitoring, banding, and harvest surveys) designed to track the status and harvest of migratory waterfowl, mainly in the Atlantic Flyway. For example, the estimated number of captive-reared mallards present in the Atlantic Flyway when the annual mid-winter waterfowl survey is conducted is more than half the total number of mallards counted during that survey, and captive-reared mallards may make up as much as 10 percent of the estimated total mallard breeding population in Atlantic Flyway States. These effects can introduce additional bias into important databases used by wildlife management agencies to manage our waterfowl resources. The less effective these databases become, the more difficulty and uncertainty these agencies have in making informed decisions regarding population status and trends, habitat utilization, and appropriate waterfowl hunting seasons. In addition, there are international waterfowl management concerns, since band-recovery data from free-flying mallard releases indicate that some of these birds are entering the wild population and being recovered in Canada.

While the intent of the regulation 50 CFR 21.13 was to allow privately-operated shooting preserves unlimited opportunity to shoot captive-reared mallards, provided there is a clear distinction from wild mallards, the Service's primary obligation is to safeguard migratory waterfowl protected under the MBTA. Thus, our review suggests that there is sufficient ambiguity in the regulation 50 CFR 21.13, particularly as it relates to release methodology and containment of captive-reared mallards, to consider

amending it or to devise corrective action to limit intermixing with wild migratory waterfowl. Clearly, it was not the intent of these regulations that private shooting preserves should in any way adversely affect our public migratory bird resources.